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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,271	04/05/2005	Hiroshi Yoshihara	09792909-6201	3065

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EXAMINER
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LANDAU, MATTHEW C

ART UNIT	PAPER NUMBER
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2815

MAIL DATE	DELIVERY MODE
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06/22/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/530,271

Applicant(s)

YOSHIHARA ET AL.

Examiner

Matthew C. Landau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/5/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Objections*

Claim 1 is objected to because of the following informalities: the limitations “first writing lines is wound” and “second writing lines is wound” should be changed to “first writing lines are wound” and “second writing lines are wound”. Further the limitation “reversed each other” should be changed to “reversed with respect to each other” (or something similar).

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Witcraft et al. (US Pat. 6,771,533, hereinafter Witcraft).

Regarding claim 1, Figure 8 of Witcraft discloses a magnetic storage device of complementary type for storing storage data in a first ferromagnetic tunnel junction element 804 and a second ferromagnetic tunnel junction element 810 (col. 5, lines 52-54 and col. 12, lines 20-22), respectively, in which said magnetic storage device using said ferromagnetic tunnel junction elements is characterized in that: said first ferromagnetic tunnel junction element and said second tunnel junction element are formed adjacently on a semiconductor substrate; a first writing lines

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are wound around said first tunnel junction element like a coil and said second writing lines are wound around said second tunnel junction element like a coil; wherein a winding direction of said first writing lines and a winding direction of said second writing lines are reversed with respect to each other. Note that the "winding direction" is relative to the starting/ending point of the winding process. It is essentially a product-by-process limitation that does not structurally distinguish the claimed invention over the prior art. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966. If a coil has two sides (side A and side B), the coil wound in a clockwise direction from side A to side B would have the same structure as if the coil were wound in a counter-clockwise direction from side B to side A. Therefore, both the first and second wiring coils can be considered to have either winding direction.

Regarding claim 2, Figure 8 of Witcraft discloses the first and second writing lines are connected at endpoints. Whether or not those endpoints are start-ends or terminal-ends is merely a product-by-process limitation that does not structurally distinguish the claimed invention over the prior art. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Witcraft in view of Chen et al. (US Pat. 5,732,016, hereinafter Chen).

Regarding claims 3 and 4, Figure 8 of Witcraft discloses the first and second writing lines have upper and lower writing lines extending in a direction substantially perpendicular to a magnetization direction of said fixed magnetization layers, at positions above and below said first and second junction elements. The difference between Witcraft and the claimed invention is the first and second writing lines have parallel wiring portions which extend in a direction substantially parallel to a magnetization direction of fixed magnetization layers at positions immediately below said first tunnel junction element and said second tunnel junction element. Figures 8-11 of Chen disclose a magnetoresistive device with coil-shaped writing lines 80/86/87 surrounding a magnetoresistive element 84, wherein the writing lines have parallel wiring portions which extend in a direction substantially parallel to a magnetization direction of fixed magnetization layer at positions immediately below the element. In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Witcraft by using the wiring structure of Chen for the purpose of selecting a wiring method that can be more easily fabricated.

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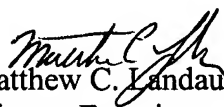
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is 571-272-1731.

The examiner can normally be reached on 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Matthew C. Landau  
Primary Examiner  
Art Unit 2815

6/19/07